NOTICE

Since 2004, there have not been any known cases of SARS reported anywhere in the world. The content in this PDF was developed for the 2003 SARS epidemic. But, some guidelines are still being used. Any new SARS updates will be posted on this Web site.

Update: Review Panel Concludes that Laboratory was Source of SARS-CoV Infection in Singapore Patient

An 11-member review panel tasked with investigating the recent SARS case in Singapore has concluded that the patient most likely acquired the infection in the Environmental Health Institute (EHI) laboratory where he had worked. The panel, which consisted of local and international experts, including a senior laboratory scientist and an epidemiologist from the Centers of Disease Control and Prevention (CDC), was convened by the Singapore Ministry of Health to review the epidemiologic data of the SARS case and assess the biosafety requirements and practices at Singapore's biosafety level 3 (BSL-3) laboratories.

The panel found evidence of inappropriate laboratory standards for handling BSL-3 infectious agents, including SARS-associated coronavirus (SARS-CoV), in the EHI laboratory. The panel also found PCR evidence of cross-contamination of West Nile virus samples with SARS-CoV. The patient had worked with a cross-contaminated sample on August 23, which was 3 days before onset of his illness. No evidence was found for any other source of infection.

The conclusion that the laboratory was the source of the infection is supported by the finding that the sequence of the single strain of virus used in the laboratory is nearly identical to that from the patient. The panel concluded that the few sequence differences between the patient's virus and the laboratory strain could be explained by mutation during passage in the laboratory or infection in the patient.

The panel's complete report, which includes recommendations on biosafety standards and practices, is available at http://www.moh.gov.sg/sars/pdf/Report_SARS_Biosafety.pdf.